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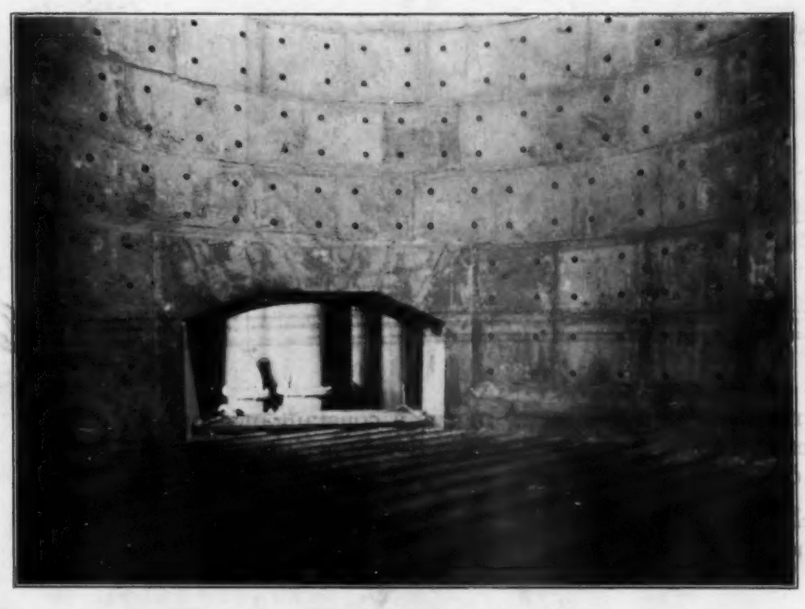
*Be Sure and See*

DRAKE NON-CLINKERING
GENERATOR LININGS

AT THE A. G. A. CONVENTION, ATLANTIC CITY



*Booths 19-20*

*Interior view of Generator in a large gas plant in Pennsylvania, showing Drake Non-Clinkering Lining.*

**Drake Non-Clinkering Generator Linings Result in**

(1) INCREASED GENERATOR CAPACITY
(2) NO CLINKER ADHESION
(3) EXTREMELY LOW MAINTENANCE
(4) CLEANING TIME CUT IN HALF
(5) MUCH LONGER LIFE

Drake Non-Clinkering Furnace Block Company, Inc.

**5 Beekman Street, New York**

**1700 Walnut Street, Philadelphia**

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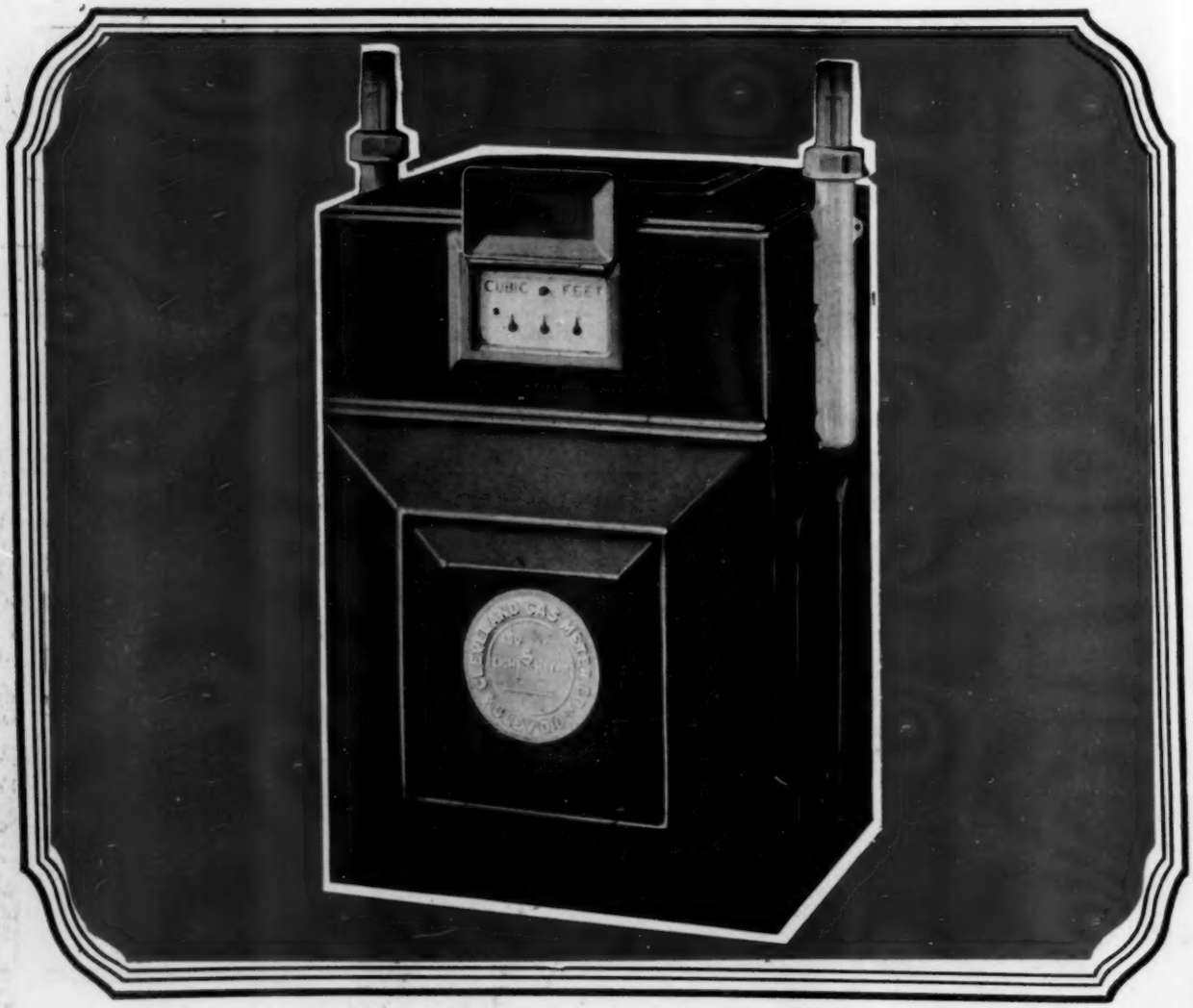


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Our thoroughly organized and completely equipped factory assure you that the workmanship, materials, accuracy and general efficiency are unequaled.

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# American Gas Journal

SIXTY-SEVENTH YEAR

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*"MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS"*

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AMERICAN
GAS JOURNAL

*Established 1859—Pioneer of the Gas Industry*

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# Home Service in Westchester

## Westchester Lighting Company department completes first year

*Edith Yeager*

Westchester Lighting Company

THE Home Service Division of Westchester Lighting Company has completed the first year of its organization, successfully. It is now advancing, earnestly and enthusiastically, into the second.

Mrs. Cecil G. Harvey, director-in-charge, has worked unsparingly, in keeping with the chosen slogan, " Service for Happiness." In her efforts she has had the whole-hearted co-operation of the directors. Mrs. Harvey began by having five directors. That number has steadily increased until there are now twelve.

This group of interested and interesting women are experts in every phase of gas service in the home. They demonstrate new appliances, and follow up customers' complaints. A telephone call for their services, in any home problem, is answered promptly. They seek at all times to change a frown into a smile, keeping in mind that a satisfied customer is a priceless power toward the upbuilding of good-will.

### A Display House

April last, in co-operation with the National Campaign for Better Homes in America, the Home Service Division opened a display house on the famous Bronx River Parkway. Mrs. Francis B. Germain, designer of window displays for the Lighting Company, had charge of all the details in decorations. No time or effort was spared to make the house a livable "home."

Our domestic science director, Miss Margaret Hutton, B.S., presided at an attractively arranged table. Coffee and waffles were served daily. The directors, in groups of four, assisted in serving the guests. Having shown them about the house, they explained the workings of the latest gas and electrical appliances. Many visitors declared that it was their first opportunity to see the gas-fired heating plant and the gas incinerator in operation.

It was intended that the house remain on display a week, but the increasing interest of visitors in and outside the county made it necessary to keep it on view for three weeks. During this time 11,000 persons visited the house.

Various club groups were entertained at the house. Here, also, patrols of Girl Scouts were given special attention. Printed recipes and menus were given to all guests. Every effort was made to exemplify service for happiness in the home.

### Girl Scout Cooking Classes

Three Girl Scout cooking classes were organized. The girls were taught in groups of twelve to sixteen. The lessons covered a period of ten weeks. At the end of that time certificates were given to the girls. These certificates served a double purpose. They were evidence that the girls had completed the course satisfactorily. They also counted for credit in Scout work; they conformed to the Scout Merit Badge requirements.

In all of these lessons, Miss Hutton, domestic science director, explained each step carefully, from the rinsing of the vegetables to the actual finished product. All was done in plain view. The accepted rules were given which when followed would produce a perfect result. After the meal was ready the girls were allowed to sample the cookery. A printed sheet of the tested recipes embracing that particular lesson was given them. In addition to the cooking there was a lesson in paper-favor making by Mrs. Francis B. Germain. These favors were used to decorate the table at their graduation party. When they were permitted to cook and serve a meal for their mothers, who were their guests, "Service For Happiness" was very close to perfection.

*A Girl Scout Class In Westchester*

### Importance of These Scout Classes

There have been requests from all over the county that additional Girl Scout classes be organized. Miss Hutton has received innumerable letters of thanks from the parents. It is Mrs. Harvey's intention to organize future groups in the early Fall.

Miss Hutton gave a lecture demonstration on oven canning of fruits and vegetables before a crowded auditorium. In view of her audience she canned strawberries, string beans, peaches, beets, tomatoes and jams. She afterwards served the jam she had made to her audience. As an added interest, the names of her audience were drawn from a box in which they had been placed on their entrance. The prize was a waterless cooker.

Daily thereafter in the main floor kitchens of all the offices oven heat canning demonstrations were given by the different directors over a period of two weeks. A week was given to jams and jelly demonstrations and one also to relishes and pickles. The demonstration week of salads and frozen desserts was very popular. Printed recipes covering the demonstration were given to those attending.

### Home Lighting Work

We have added to our division a specialist in modern home lighting, Mrs. Sarai Waugh. Mrs. Waugh is prepared to give illustrated lectures on home lighting before club and school groups. This is a broad, almost untouched field and should prove of great interest to the housewife. We are looking forward with keen interest to its response in Westchester.

The year ahead is brimful of better and busier efforts toward a bigger service for happiness in the home.

*The Display House, a Feature of Home Service Work of the Westchester Lighting Company*

## INDUSTRIAL USES OF GAS REALIZED MORE THAN A CENTURY AGO

The use of gas in industrial heating operations is not a new development, according to research engineers of the American Gas Association, who have been conducting studies of the industrial history of America to determine the trend in fuel utilization.

In making their report to the executives of the leading gas companies, these engineers point out that it was in 1806 that Josiah Pemberton was the first to construct a gas stove, using it for soldering purposes in his button factory.

The report further states: "In 1840 a Scotch manufacturer by the name of Mackintosh made several tons of 'cemented' steel by submitting iron at a dull red heat to the action of lighting gas. The carbon for the steel was derived from the gas.

"In 1857 a patent was granted for the heating of irons for laundry work by means of gas, and in 1859 a soldering apparatus for continuous soldering by means of gas was described in the Technical Press. This included the use of a blast worked by a foot bellows.

"In an advertisement of Eisner, of Berlin, in July, 1859, is was pointed out that there was scarcely a brand of domestic work, of industry, or of business for which a gas cooking or heating apparatus could not be recommended. Thus, it is evident that the use of gas for industrial purposes is not of recent origin."

The report concludes with the statement that there has been more than a thousand per cent increase in the sales of gas to industries in the past decade.

¤ ¤ ¤ ¤

## GAS HELPS FINISH PAPER

The installation of gas-fired dryers in the manufacture of paper has resulted in a lower cost of finishing as well as in increased production. When paper is "finished" to give it a lustre a thin coat of varnish is applied which was formerly dried by steam. Drying the varnish by radiation of gas heat has been found to produce a more uniform result.

# Refractories for Generator Linings

## I.--Clinker formation and general properties of refractories

*H. H. Baumgartner*

CHANGES in design of water gas generator sets during the past few years resulted in greater capacity, and better efficiencies.

Capacity and efficiency depend upon the following:

(a) Grate area, or equivalent grate area; actual active fire area.
(b) Pressure and capacity of blowers and boilers.
(c) Size of blast and steam areas.
(d) Automatic reversal of up and down run steam with hot valves.
(e) Method of coaling.
(f) Ease of cleaning due to size and location of clinker doors and tenacity of clinker formations.
(g) Method of operation.
(h) Back pressure on set.
(i) Quality of steam and generator fuel.
(j) Meter and instrument equipment.
(k) Dust catchers, lower hot valve temperatures.
(l) Automatic charging equipment.
(m) Use of low pressure exhaust steam.
(n) Use of high pressure oil with checkerless carburetor.
(o) Use of bituminous coals.
(p) Use of pier in large sets.
(q) Back run method of operation.
(r) Use of the Western type H reversing valve.
(s) Use of waste heat boilers.
(t) Installation of non-clinkering linings.
(u) Use of preheated secondary air for carburetor.

### Capacity

Greater capacity has been obtained by increasing the internal diameter of the generator lining in relation to that of the carburetor and superheater. This has been done by putting new generator shells of larger diameter in old sets and supplying larger generator shells than those of the carburetor and superheater in new sets.

This increase in diameter of generator shells over that of carburetor and superheater shells has been six inches in some installations and 12 inches in others. The writer has brought out a design of super-refractory lining of 9 inch thickness which when installed increases the internal diameter of existing generators six inches.

### Increase in Efficiency

Efficiences have been increased by:

1. The installation of either hand or automatically operated hydraulic sets.
2. Increasing pressures and capacities of boilers and blowers.
3. Increasing blast and steam areas.
4. Increasing percentage of down runs.
5. Installation of back runs.
6. Installation of waste heat boilers.
7. Installation of air cooled linings so designed that the cooling air is used for secondary air in carburetor. (One has been in operation since the middle of May.)

### Clinker Formation

In the manufacture of gas the most serious draw back to efficient operation and maintenance of rated capacities has been clinker formations and their bonding with the lining. Subsequent barring down not only removes the clinker, but the face of the brick as well.

Causes of clinker formation are fundamentally due to the following:

(a) Character of the ash in the fuel.
(b) Fusing temperature of the ash.
(c) Length of operating cycle.
(d) Variation of temperature in the fuel bed.
(e) Rate of blasting.

The character of the ash in the fuel plays a very important part in the formation of clinkers.

The best ash upon analysis shows about equal proportions of alumina and silica, less than 2 per cent CaO; small amounts of magnesia and alkalies, and only traces of iron, as iron is a fluxing element which lowers the fusing point of slags.

### Fuels Chosen On Ash Content

With present conditions in the gas industry, operators cannot choose their fuels according to ash analysis, but they must if necessary use those fuels which are the more economical when the overall cost per thousand cubic feet of make is considered.

The above fact also eliminates the possibility of using fuels having ash with fusing temperatures of from 2300 to 2500 degs. F. which experience has shown results in minimum clinker troubles. Lower or higher fusing temperatures develop obstinate clinker formation on the grates or walls of the generator lining.

Variation of temperatures in the fuel bed should be as small as possible. These approach a minimum with a short operating cycle. This cycle should be as short as possible within the practical limits of valve changing without loss of time.

The rate of blasting seems to affect clinker formation directly as the amount of air supplied per sq. ft. of grate surface per blow. The fusing temperature of the ash bears a definite relation to the amount of air that can be supplied to the fire during the blow without forming clinker masses impervious to

the air blast. This amount of air varies from 350 to 400 cu. ft. per sq. ft. of grate surface per blow with ash fusing at 2200 degs., to 500 to 550 cu. ft. per sq. ft. of grate surface per blow with ash fusing at 2600 degs. F.

### Clinker Removal and Prevention

Progress toward clinker removal and prevention has been along the following lines:

1. Developments of automatically controlled hydraulic valve sets.
2. Barring down machines.
3. Compressed air clinkering tools.
4. Refractory materials.
5. Experiments with

(a) Mechanical grates.
(b) Divided blast.
(c) Slagging the ash.
(d) Return of CO2 with blast.
(e) Water cooled generator.

Of the above only two will be discussed. The water cooled generator, although effective in preventing clinker adherence to side walls causes a tendency for the fuel to shrink away from the water cooled surface, allowing the short circuiting of blast air and steam between the fuel bed and the shell.

After careful study of the results obtained from the several experiments and developments contributing to clinker prevention or minimization and its removal, the most feasible and applicable remedy seems to be the use of properly designed, air cooled, refractory linings to which clinker will not adhere.

### Refractory Materials

Having made a study of available refractory materials and the results obtained with them, when applied to both gas generator and boiler linings, in the forms heretofore offered, and also having made several tests on super-refractory linings of both silicon carbide and fused alumina, using the conventional shapes offered by the trade and also shapes of his own design, the writer believes that either silicon carbide or fused alumina linings of proper design, positively air-cooled will not only prevent adherence of clinker, but will sufficiently outlast fire clay linings to more than warrant the difference in cost.

Recent tests point to fused alumina as having all the desirable properties of silicon carbide without being subject to slow oxidation. Under certain conditions slow oxidation of silicon carbide occurs. This slow oxidation causes expansion or growth with eventual disintegration and failure. With proper design and the correct amount of air cooling so as to maintain the mean average temperature of the silicon carbide blocks above 900 degs. F., and below 1800 degs. F., or in the neighborhood of 1100 to 1200 degs. F., this oxidation is of such small magnitude as to be of little importance. The shapes also have their maximum strength at 1100 degs. to 1200 degs. F., temperature. While fused alumina is slightly heavier than carborundum and costs more, the writer has eliminated all excess material in the shapes used. This in itself more than makes up for the difference in first cost.

### Properties of Silicon Carbide and Fused Alumina

Properties of silicon carbide known to the trade by various names, a few of which are; carborundum, crystolon, silcar, carboglaze, etc., compared with fused alumina, also known as aluminax, coraffin, aloxite, corundum, alundum, or corindite. Alundum being the trade name for an artificially prepared corundum, and corindite being the name of the fused bauxite prepared by the Leceane process. The great advantage of alumina bricks and shapes over those made of unfused alumina is the absence of shrinkage combined with high resistance to abrasion and slags. The importance of a crystalline structure in refractories is obvious, as the larger the crystals the better the shape resists sudden cooling or shocks. Again the finer the crystals or or grain the less slag penetration. The latter is more important in refractories having fusing points of 3100 degs. F. or less and of less importance in refractories having fusing points of 3500 degs. F. or more. All things considered, it would seem that an ideal refractory would have large interlocking crystals in its internal structure with fine crystals at its face. The nearest approach to this is obtained by using large crystals and glazing the face.

The crystals used in the manufacture of both silicon carbide and fused alumina are products of the electric furnace. Silicon carbide being made in a resistance type of electric furnace whereas in the case of fused alumina, the arc furnace is employed, producing actual melting of the material.

### Making the Shapes

In the manufacture of silicon carbide shapes, the entire charge or all of the crystals formed in the furnace should be used. When this is done and a combination organic and calcium oxide binder is used in bonding the product, as in the case of silcar, the function of this binder is two-fold. First, it holds the crystals together during the initial drying and handling on its way to the kiln. Second, it produces a glaze consisting of calcium silicate on the surface of the brick or shape during the period of "high fire" in the kiln. The presence of this glaze is a material factor in preventing or retarding the slow oxidation of silicon carbide into its component elements in service.

It has been the belief of some of the foremost men in the refractory field, specializing in carborundum, that the weak point is the binder. In one article the following statement was made.

"We all know the weak point of carborundum is its binder, and if you break down the binder there is nothing left to do for the carborundum, but to disintegrate and crumble. Carborundum itself will stand about 4200 degs. F., before it will fuse, whereas you will have crumbling of the binder material around 2800 or 2900 degs."

The above may be true where the crystals used are so small that interlocking between them is impossible, in this case the binder also has to function as such after the material has been fired. Yet the man making the above statement sees fit to condemn a product using all the crystals while upholding a product using very small crystals, the larger being used for abrasives and depending upon a binder of the above characteristics. It seems to the writer that where the binder has to function, as such, after firing without the aid of interlocking of the crystals, a binder having a higher fusing point should be used.

### The Fusing Point

The writer of the above paragraph, set out in quotation marks, infers that in excess of a temperature of 4200 degs. F., silicon carbide will fuse. The writer knows of no case where pure crystalline carbide, unmixed with the material secured from the outer electrode zone, will fuse until dissociation or oxidation of the two elements has been complete. When the silica is liberated by oxidation, the resultant product fuses at a temperature which corresponds closely to that of silica quartz., i.e., in the neighborhood of 3200 degs. F. From the above, you will understand that carborundum as a compound, is not subject to fusion at any temperature.

One of the foremost investigators in the refractory field in an article on the subject of silicon carbide makes the following statement:

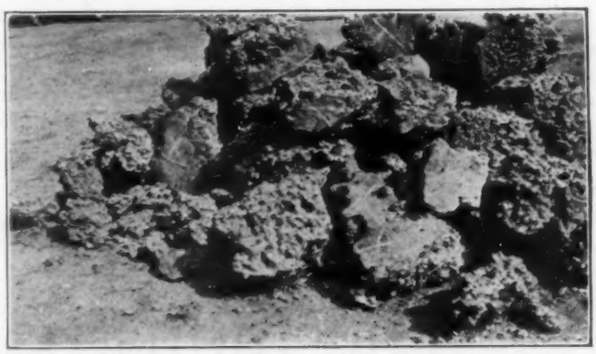
"When the wares thus formed are fired at a high temperature, the temporary binder is burned out and the grains of carborundum are bound into a hard mass by the formation of carborundum crystals. Wares made in this way do not melt at any temperature, but dissociate and oxidize into silica and carbon very rapidly at 2200 degs. C. This dissociation and oxidation is noticeable at 1500 degs. C. (oxidizing conditions) and under reducing conditions at temperatures above 1700 degs. C."

The above remarks seem to cover the points in question and also show the value of a binder functioning as does a combination organic and calcium oxide binder.

### Experiments With Other Than Straight Brick Refractories of High Class Fire Clay

Experiments in 1918 with perforated air cooled clay blocks slightly bettered conditions but not sufficiently to warrant their increased cost.

Next carborundum faced air cooled clay blocks with perforations through both block and face were tried. Good results were obtained as long as the faces stayed in place, but they tended to crack off at the interlocking section. Subsequent improvements in the design of this block and its use in lining boiler furnace has shown the elimination of this



*Clinker Removed From Generating Set*

fault. The tendency for the interlocking section to fracture has been eliminated by making the face smaller than the supporting back. As a result the interlocking section is subject to the weight of its own face only.

A great many experiments have been made with high grade fire brick linings to develop an inner lining to which clinker did not adhere. The only

### Comparison of Properties

Properties of fused alumina compared with those of silicon carbide.

| | Fused Alumina | Silicon Carbide |
|---|---|---|
| Spec. gravity | 3.9 | 3.17—3.21 |
| Hardness | 9 scale | 9 |
| Conductivity | 3 (times or fire-clay) | 5-6 |
| Porosity | 9-12% | 1-4% est. |
| Coef. of expansion | .0000071/°C. | .0000045/°C. |
| Crushing strength | 15,400 lb./sq. in. | 14,700 lb./sq. in. |
| Tensile strength | 1,700 lb./sq. in. | Max. 8,000 at 1900° F. |
| Melting or volatilizing point | 36-3700°F. (Ruff) | 4050°F. |
| | | Pure crystals (4500°F. |
| | | (4800°F. |
| Abrasion loss | 1/10 Fire Clay | 1/10 Fire Clay |
| Spawling loss | 1/6 Fire Clay | 1/8 Fire Clay |
| Spec. heat | | .180 |
| Ther. Cond. | .012 (Est) | .0243 |
| Formula | $Al_2O_3$ | SiC |
| Firing temp. of shapes | 2640°F. | 2640°F. |
| Shows no deformation under load of | 510 lb./sq. in., 2450°F. | Approximately the same |
| Fusing point under load of 40 lb./sq. in | 3100°F. | Approximately the same |

bricks to which clinkers did not adhere were silicon carbide. Perhaps the only successful solid silicon carbide linings installed when all points are considered are those reported on by one of the member companies of the American Gas Association. These linings were of silicon carbide furnished by the Seaboard Refractories Company under the trade name of "Silcar."

Apparently most of the operating troubles experienced by other companies using solid silicon carbide linings was due to oxidation by air, or steam alone, or by both. In some cases where the expansion due to this oxidation was not provided for bursted shells resulted.

### Figures On Solid Linings

Figures on these linings showed that the linings had paid for themselves, in about ten months and were good for approximately two years operation with slight repairs to the arches. Subsequent construction provided for the ready renewal of the arch section subjected to the severest wear.

In this report an 11 foot set had operated 6583 hours, this operation being continuous. After a two week's shut down during which time a small amount of pointing up over the clinkering doors was done, the set was returned to the line.

Another comparison of fire clay linings and carborundum air cooled perforated blocks used under the same conditions was as follows:

Size of machine, 9 ft.; average life of clay linings 950 hours.

| | |
|---|---|
| Carborundum lining 7,000 hours. Cost of seven fire clay linings at $225.00 each. 7 x $225 | $1,575.00 |
| Cost of six shut down at $50.00 each. 6 x $50. | 300.00 |
| Total cost with fire clay | $1,875.00 |
| Cost of carborundum lining | 1,800.00 |
| Saving over initial cost | 75.00 |
| Saving in clinkering labor | 750.00 |
| Saving in favor of carborundum | $825.00 |

# The Industrial Gas Survey *

## What its purposes are and how to make it

*Lyle C. Harvey*

Gas Sales Engineer, Illinois Power and Light Corporation

GAS company executives are giving more and more attention to the necessity of a survey of the present and future possibilities of their territory as regards industrial heating business.

The survey is a starting point from which the sales organization makes its plans. Without such a guide it is impossible to plan for or to put into effect proper wholesale rates and to lay out sales activities effectively. A gas company, therefore, without a fairly comprehensive survey of its field is like any other manufacturing company with little or no idea of the market that exists for its product, a condition which is, to say the least, hardly a basis for efficient operation.

Just what is a survey? What does an industrial gas survey mean and what should it include—what are the uses of such a survey, etc? A survey is a process of determining dimensions. Such a definition applied to industrial gas might mean the determination of the dimensions of an industrial gas field, the amount of business to be worked on and developed, the boundaries or limitations of such business, etc. Or, it might mean the determination of the dimensions of an industrial gas organization to handle a certain industrial situation—its strength or limitations, etc. We will deal with the former and consider an industrial gas survey a process of determining the dimensions of the available business in each of your respective territories.

### Value of Survey

The value of a survey is manifold. A gas company executive will be most interested in the survey from the viewpoint of determining the present and future possibilities of his territory. You will be most interested in the survey from the viewpoint of making your plans so that you can carry out your duties systematically and effectively, thereby accomplishing the greatest results.

With these ideas in mind we may say the objectives of an industrial gas survey are three-fold, and are namely (1) to obtain accurate preliminary data on every prospect for industrial gas in your territory. This should be accomplished by making a call on every possible user of heat in your territory and gaining such data and information as the kind, size

* Delivered as a lecture before the Industrial Gas Course, University of Illinois.

and type of his present heating equipment, the kind and amount of his present fuel, the load factor of his present heating operations, the amount of gas business available should each of his heating operations be changed from his present fuel to gas fuel, the equipment required if this change in fuels is made, and what the possibility is of making this change of fuels and obtaining the gas business available under the existing rate schedules. We might say then, that the first objective of the survey is to get a bird's-eye view of your territory providing, of course, that this bird's-eye view takes in enough or is complete enough for you to obtain the benefits that should be forthcoming from a properly conducted survey. A half-hearted survey is a waste of energy.

### Classification of Available Business From Rate Standpoint

The second objective of the survey should be the classification of the available business from a rate standpoint. It will be necessary for you to know how much business in your territory is available at existing rates, how much more business in your territory will be available at slightly lower rates and

*Lyle C. Harvey, Illinois Power and Light Corporation*

how much more will become available at a still lower rate, etc. When the proper data are gathered on the survey as mentioned above, it will be possible for you to determine not only the various amounts of business available but also the rates at which the business should be expected. The third objective of the survey should be to gain a personal knowledge of present gas installations and in this way give you information as to the conditions existing among present industrial gas customers in your territory. You will, no doubt, find in your territory much antiquated, inefficient equipment which must be replaced sooner or later with modern equipment if you are to hold the existing industrial gas business, and you must remember constantly that as an industrial sales engineer it is just as much your duty to maintain existing business as it is to secure new and additional business. Service is as important as sales efforts. Difference between crude fuel and gas sales.

### Prospect List

With the above objectives in mind, the first step in making an industrial gas survey is to prepare a list of every possible user of heat in your territory. Such a list can be made up by the aid of various industrial classifications that you can usually obtain from the local Chamber of Commerce, or from classifications appearing in telephone directories, city directories, industrial bulletins, etc. Such a list should be made up by the aid of a map of your territory so that you can list the prospects you are to call on in geographical order to permit making the call on them in as short a time as possible. This will also eliminate the possibility of omitting some prospects. When the lists are made up in this way you can go down one street and up another, eliminating any overlapping of your work and locating any prospects you may have failed to list. In making up the list, do not try to determine in your own mind whether or not a certain concern may or may not be a prospect. If there is ever a possible use of heat in his particular class of business, put him on the prospect list and see that he receives a personal call. When you are ready to make these calls, do not allow yourself to be guided entirely by this prospect list, for no matter how carefully you may have prepared it you will find in making the calls in geographical order that there are some prospects you have not listed. These prospects should be added to the list and called on as found. Inasmuch as it is impossible to make a complete list of prospects, do not spend any great amount of time in trying to do so.

### Making Calls on Prospects Listed

Taking the prospect list which has been made up geographically from a map of the territory a call should be made upon each prospect. Before making calls on prospects the sales engineer should go over the list and determine approximately on whom he he expects to call on the next day. Carefully go over the next day's work and be sure that you are as familiar as possible with the operations that you may expect to find in the industrial plants to be visited. You will want to know the general run of things in plants you are to visit. You will want to know what operations to look for and what particular points to inquire about. I think here is the proper place to pause for a moment with a word of warning. You know the average man has somewhat of a tendency to want to talk and when an industrial gas sales engineer gets into a prospect's plant and gets started telling about all he knows regarding the operations he sees, he sometimes forgets and talks too much. It is impossible for an industrial gas sales engineer to know everything about any one plant or industry. It is even impossible for an industrial gas sales engineer to know everything about

any particular heating operation which he finds in a plant, unless, of course, he specializes on that phase of industrial activity. One of the quickest ways that you can set the men in a plant against you is to make it appear that you feel you know all there is to know about their plant and their troubles.

### First Visit Limited to Questions

Therefore, your first visit to a plant should be devoted almost entirely to questions. Don't be too willing to offer advice and suggestions, but rather ask questions. You are there looking for information and the best way to obtain that information is to ask questions and further, if you are planning your work and doing it systematically, you won't have any time to tell a plant operator something that you don't know and probably he does. Another point is that most of the operations in a plant and the certain ways they have of doing things there, exist and are carried out because some foreman, department head, plant manager or the like has said that those certain things should be done that way. Therefore, the minute you start to criticize operations or methods you are stepping on somebody's toes and you immediately convey the impression that you know more about the subject in question than the fellow who is running the thing and in charge of operations. You are going to be mistaken if you expect to get very far by such practice.

*Battery of Gas-Fired Soft Metal Melters*

You will find that all you can study and learn about any particular plant and all the operations in it, will come in handy when you get into the plant and in conversation with some of the executives. Do not let me convey the idea to you that it is necessary to know all there is to know about a certain plant and its operations before visiting the plant in an effort to sell industrial gas. Such is not the case, but obviously you are going to have to become familiar with a plant and its operations before you can expect to accomplish much—and any information you have will naturally give you that much of a head start. Also you can readily appreciate how much easier it will be for a plant executive to turn you away and fail to be interested in what you say and to place any confidence in you if you cannot talk in his own language—at least to a certain extent. A gas engineer, after he gets in a plant, should spend considerable time before doing much of anything else in getting as familiar as possible with the various operations he is to deal with, and in learning all that he can about these operations. When studying a plant or an operation, you may be asked a question you cannot answer by someone of the plant employees and in such case I have found it advisable to frankly say that you do not know, but always add that you will find out. Do not try to get off with an explanation in answer to the question that may not be correct. Be sure and don't "kid" the customer. After you are through studying a proposition don't ever recommend a piece of equipment or an installation unless you absolutely know all about it and are sure of your ground, knowing why it should be used instead of something else.

### Making Calls

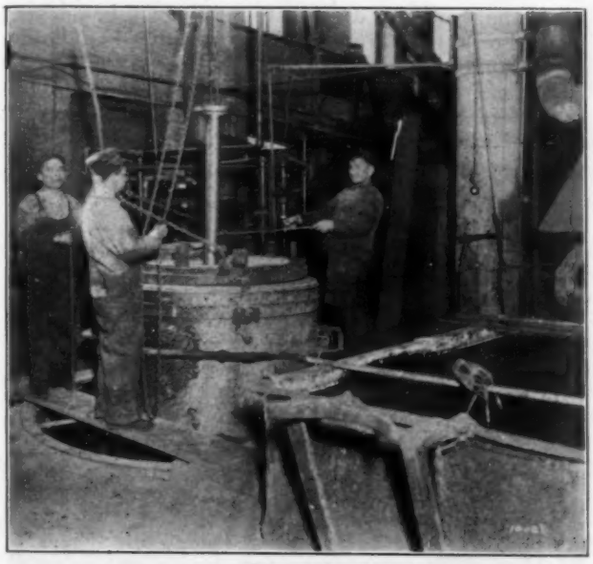
In making calls on those mentioned on the prospect list, you will find it advantageous to meet the man in charge, the general manager or whatever title he may have. Tell him that you are making an industrial gas survey in which you wish to consider all the heating operations in that particular territory, stating that the information is to be used by your company in laying out future plans for manufacturing and distribution equipment. Also let him know what advances are being made in plants similar to his by the application of city gas as a fuel. Give him data and show him pictures of installations. Advise him that the gas company is engaged in actively pushing industrial gas business and that you would like to determine whether or not there are any heating operations in his plant on which he could economically use city gas as a fuel. Explain to him frankly that while tremendous strides are being made in the application of city gas to industrial heating operations there is only one reason for it, and that reason is economy. That the gas company doesn't expect any manufacturer to use gas unless he could do so and effect economies over his present operations. When visiting a plant, regardless of whom you may be talking to, take advantage of every opportunity to "sell" him on gas, the ideal factory fuel.

### Classification of Data

The second objective of the survey calls for the classification of the available business from a rate standpoint.

Upon the completion of the survey just covered, you will have a complete index of all the fuel-using prospects in your territory. With the data you have obtained, properly classified and recorded, it will be possible to make a close estimate of the total volume of gas required to replace present fuels, and if carried a step further it will be possible to determine closely how much gas business can be obtained with present rates. Also if this classification of such data is made up according to districts, it will reveal those districts in which the distribution facilities are inadequate to take care of the ultimate available load, as well as those districts which have ample distribu-

tion facilities. Such classification will be helpful in more ways than one. It will assist the distribution department in preliminary planning. It will show where the immediate business is sufficient to warrant a main extension, and it will eliminate the error of making detailed studies of plants and exerting sales effort on prospects in districts where it may be some time before a sufficient gas supply will be available. Efforts can then be concentrated on other districts and sales can be sought where an immediate expenditure of considerable capital for additional mains will be unnecessary.



*Vertical Gas-Fired Carbonizing Machine*

In other words, the main objectives being to sell gas and knowing that our work must be effective and results forthcoming, we must consider any methods and practices which can be most expected to produce immediate results.

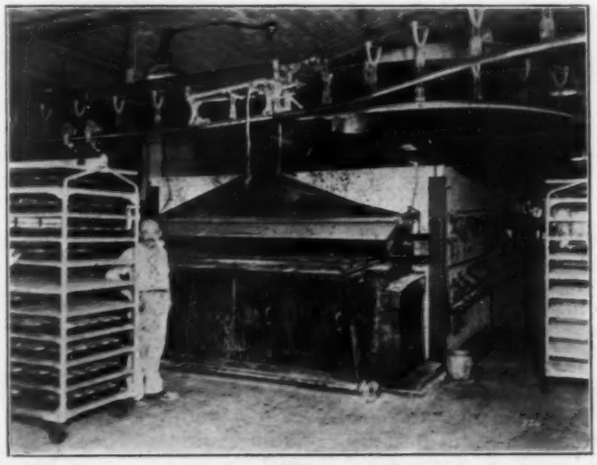
### Proper Classification of Data Important

The proper classification of the data collected on the survey is important, if the survey is to be of all possible value. To properly classify the data in question you will have to rely on or make use of three sources or classes of information: (1) Your experience on industrial gas work; (2) experience of others on this work, which might be termed "good practice"; (3) calculations. It is, naturally, impossible for anyone to properly classify survey data unless they are familiar with industrial gas work. You will have to arrive at the gas requirements of heating operations. When you know these requirements you have to determine whether or not the business is available on your present rates and if it is not available on present rates, at what rate it is available. You will also find that while a certain piece of business is available on present rates that much more effort and time will have to be spent on it than on other business which is also available on the present rates. Some business will require a detailed study of the plant and heating operations concerned, which work may require weeks or months, while other business may be gained after a short test or a trial installation. Therefore, all available business should be classified as to the possibility of obtaining it, whether the possibility is good, fair or poor on existing rates. On the classification sheet, therefore, it is well to have some standard means of classification.

### The Rate

In stating the rate at which you may be expected to secure certain business do not allow yourself to be governed too much by the present fuel costs. Gas is a refined fuel and has many advantages—and if you exert your efforts properly you can capitalize on some of these—the number and amount depending on your sales ability. When you set a rate for a certain class of business that is much lower than rates on which the same business is being obtained elsewhere, what does it mean? It means that you admit you do not have sales ability—you are almost admitting that you are not the man for the job—you can't get business unless the rates are so low you almost give gas away. Such an admission on your part may give your employers the wrong impression of you, for it certainly conveys the impression that you haven't much confidence in yourself or your work. You can't win the confidence of others if you have no confidence in yourself and are not enthusiastic about your job.

During the course of the survey, if it is to be successful, each plant manager must be sold on the idea of a complete cost analysis covering his present fuel, together with a careful study of all factors entering into its use. You will, no doubt, find processes existing entirely because of the effect of certain fuels on a product. The cost of these must naturally be taken into account and charged against the fuel. Your study must, therefore, include not only the fuel, but every process caused or effected by the fuel.



*Gas-Fired Baking Oven*

(The second half of this article will appear next week. Editor.)

# How to Sell Used Ranges

## The use of the rebuilt idea

*William H. Matlack*

MANY plans have been devised to sell "used ranges" and, as we view it, with anything but good results. The American public does not like the words "second handed" or "used," that is, when they are applied to any of their personal appliances, especially gas ranges. You salesmen who read can recall instances where a range had been recovered for non-payment that looked brand new save for possibly a little discoloration on the linings or grates—and the "chief" had it all cleaned up and set on the floor—and how you had customer after customer up to the point of signing on the dotted line when she would back out and look at a new range and say, "I don't think I'd be satisfied with that used range. I don't know who had it, and anyhow I think I prefer a new one."

The Illinois Power and Light Corporation experienced this same difficulty when, early in the season, they staged a used range sale. They sold ranges but they did not sell "used ranges." After consultation it was decided to dispose of those ranges, some of which had been in the store room for a year or two. The plan decided upon was to exploit them not as used ranges or second-hand ranges but as "rebuilt ranges," all fully guaranteed. The advertisements were carefully planned and the stock was carefully cleaned, and thirty days after the first sale had closed the sale of "Rebuilt Gas Ranges" was opened and went over big.

### Series of Ads Successful

Speaking of this sale, "Current Topics" says:

"The East St. Louis district of Illinois Power and Light Corporation produced a series of advertisements which have proved probably the most effective to be used anywhere in our organization for promoting the sale of gas appliances.

"As a result of these newspaper advertisements, which were run during the month of March, 69 rebuilt gas ranges were sold in five days. The first ad on March 7, announced that the stock of rebuilt, guaranteed ranges, 50 in number, would be placed on sale at reduced prices, saving the customer 33 per cent to 50 per cent.

"Following this advertisement, one other was run on March 9, which resulted in 19 range sales the following day, and also in many inquiries from customers that eventually resulted in sales. These two advertisements were followed by others up to and including March 14. The newspaper advertising was supplemented by window and store cards and by ranges displayed on the sales floor, carefully price-marked, and others which showed the saving to the customer through the purchase of a rebuilt gas range.

"Employees in all departments were advised of the sale; copies of the advertisements were posted in conspicuous places and gas fitters were impressed with the fact that the customers must be pleased with the ranges. The day following the installation of a range an inspector called to test the Lorain oven heat regulator and to see that proper adjustment had been made on all burners, and a day or so later a member of the Home Service Department called and demonstrated the range.

¤ ¤ ¤ ¤

If You Use Gas—You Have a Charge Account With Us!
A BIG SAVING TO YOU
OUR SPECIAL SALE OF REBUILT GAS RANGES
Enables You to Save from
33⅓% to 50%
Take Advantage of This Sale—Today!
CLARK JEWEL
Gas Ranges
This Clark Jewel Cabinet
Gas Range—Semi-Porcelain Type with large LORAIN-EQUIPPED baking oven, full-size broiling oven, regular main top burners and firefly lighter will beautify any kitchen and free the home manager from "pot watching"—it is a real bargain—and this price includes free connections in your home—only
Payable $2.85 Down
$3 per Month
$50.85
$10 Allowance for Your Old Stove
The above is but one of the many standard types of Gas Ranges offered during this sale—Others, all well known makes, from $25.50 to $110—All sold on easy terms. See them and display at our office—today!
Phone for Representative or Call at Our Office
Illinois Power and Light Corporation
Phone Bridg. 1041
Your Gas Co.
414 Missouri Ave.

**Good Effect in Public Relations**

"This latter feature of the campaign was very valuable from a public relations standpoint for the reason that it impressed our customers with the fact that Illinois Power and Light Corporation was anxious that its service should extend beyond the mere sale of a piece of merchandise. Salesmen carried copies of the advertisement and interrogated every prospect, asking them whether they had heard of the sale and explaining the saving which would result from the immediate purchase of a rebuilt range. The campaign ended on March 15 with the storeroom practically cleared of all rebuilt ranges. In addition to the range sales, a considerable increase was noted in the sale of water heaters, room heaters and other appliances."

# Improved Customer Relations*

## Pacific Coast committee report recommends superior salesmanship

*J. G. Bourus*

Chairman, Pacific Coast Gas Association, Public Relations Section.

THE winning and holding the friendship of "Our Boss" the Public is a many sided and intricate problem. We will not attempt here to analyze it. It is something which is receiving the profound thought and study of the whole utility field and little by little it is unravelling itself under the intensive efforts now being directed against it. In simple language, it seems to be a problem of humanizing business. The complexities and magnitude of our job of furnishing superlatively, excellent gas service at a price have caused us until just recently to lose sight of the more important matter of developing friendly human relationships, which cannot be bought.

This is essentially a mechanical age. We have become accustomed to doing anything and everything with machinery. There are those who claim that our social structure is weakening from such causes. This is no criticism of the existing order, the wonders of which cannot be successfully denied. But no one has yet found a way to bring human nature under the control of mechanical devices, and we still have human nature to deal with after every other problem in utility operation and service is solved. Stereotyped procedure, commonly called red tape, is distasteful and customers dislike to be bunched in classes. They like to be considered individually and personally. It is the personal touch that wins—it is the mechanical method that loses. The human equation between the customer and employee is ever present and cannot be removed.

**Constant Perfection Necessary**

Regardless of the amount of planning done in the perfection of systems, which are calculated to make the machine called Public Relations run smoothly, most of us find ourselves constantly called upon to be "out and under" in an effort to keep things going toward the desired goal.

It makes but little difference whether the community served is a mere village or a metropolis, success lies in pleasing the individual customer and every type of conduct shown by public utility employees in dealing with customers may be classified as expressing either interest or indifference in one form or another.

In the eyes of the customer, there can be no halfway point; there must be a marked interest shown by the company's representatives or the customer considers the attitude to be an indifferent one. There should be an atmosphere of sincere interest preponderant in every contact in order that the customer may experience the right reaction.

Therefore, any method designed to result in friendlier relationships must have its genesis in the proper selection, education, and training of the employee, who is always the company from the customer's viewpoint.

**Conditions Vary Considerably**

Probably no two companies in this Association have identically the same conditions to meet in their dealings with customers. Plenty of evidence is at hand, however, to indicate that it pays in all companies to ascertain the effect of prevailing methods and to apply corrective measures either by change of company policy or further education of employees,

* Delivered at the 1926 convention of the Pacific Coast Gas Association.

or both. Various means have been devised to accomplish these ends, such as "listening in" on telephone conversations, checking of incoming and outgoing correspondence, use of follow-up return postals, and use of trained interviewers to call upon customers and get the public pulse.

Even we in the public utilities may by these methods "see ourselves as others see us" and profit thereby. One company using the return postal card idea as a "Good-Will Developer" during the past year found that 93.8 per cent of the customers receiving cards were wholly satisfied because only 6.2 per cent of the total mailed were returned. Of those who returned postals, 72.1 per cent reported service entirely satisfactory and the balance required some very minor service.

### Trained-Interviewer Plan

The trained-interviewer plan was used by one company in calling upon five thousand of its customers picked at random. The customers were asked how they felt about the company and its service. They were then further asked the reasons for their answers. Almost without exception answers were found to be based on the personal contacts which the customers in question had had with the employees of the company in various ways at one time or another. In other words, their replies were based on the kind of personal attention they had received. Perhaps the two most important facts brought out by the survey were these:

1. The good-will of the public toward the company is based almost entirely upon the service the company renders (service is about three times more important in the public mind than any other consideration);
2. The public judges the quality of the service by the pleasantness or unpleasantness of its personal contacts with the employees engaged in rendering it, including every detail of it from answering the telephone to installing gas-using equipment.

### Contact Employees Have Heavy Responsibility

Doubtless, a heavy responsibility rests in the hands of telephone operators, information clerks, meter readers, collectors, trouble men, salespeople, shopmen, and other employees who are constantly meeting the public, whether on or off duty, and this has been ably covered in the reports of previous years. But we believe that a greater responsibility in this problem lies upon the shoulders of utility managers than upon these other employees. That responsibility is to see that the rank and file of employees are instructed in the right ways of public contact; not so much in following a prescribed form as in rendering personal service. The outstanding successes among the managers of large public utilities today are those who have foreseen the need for this newer sort of training that fits every employee to give an intelligent personal service. Instead of organizing simply to deal out one brand of prompt and courteous response to complaints, they have found that it pays to augment good service with a personal touch. To accomplish this quickly, most companies use a Public Relations Department operating under the supervision of a competent Director whose work is built around the idea that what employees need more than technical knowledge is a deeper human understanding.

In a broad sense, this arrangement is so fundamentally sound and has been so very successful in its application, that it seems to be the very seed from which all improved methods of handling customers' transactions shall grow in the future. The point is that along with the tendency of the day toward specialization of every sort, utility managers are finding that one way to improved public relations is through these public relations specialists.

### Psychology of Nomenclature

Whether the utilities have chosen wisely in selecting the title of "Director of Public Relations" for such specialists, and "Public Relations Department" as the name for this special branch of utility work, is questionable. There are those who believe that the psychology of such nomenclature is poor, and that the coining of some less explicit and yet equally striking names might be possible and desirable. The title "Special Assistant to the Manager" or "Special Agent" is believed by some to remove the suggestion to the public mind that we find ourselves in need of Public Relations representatives. Furthermore, such titles tend to dignify the position and that would help to make the customer feel that the company officials are easily accessible. This committee believes that some special consideration might well be given to this idea during the next year.

We have been asked to report on phases of service to customers which are not now receiving adequate attention. We believe that each utility is best prepared to analyze its service in the light of up-to-date methods and make proper adjustments. It may not be out of place, however, to make this observation, which may stimulate thought on the subject of rendering better service:—Any company's right to exist comes from the public, and what the public can confer it can also withdraw. Public sentiment controls the ultimate success or failure of every business and the good-will of the public is never a reward for poor service. Every utility will find sooner or later that success is won by giving as good service under a monopoly as if strenuous competition existed.

### Superior Salesmanship

How does a well managed concern in a highly competitive business survive and thrive? Some will say, it is through quality; some, price; some, service; some, general integrity, that success is attained. But, in the final analysis, all of these things are only components of a superior salesmanship.

It should be a matter of company policy and of

(Continued on page 266)

# As The Journal Views It

## THE HOLDING COMPANY

One of the outstanding developments in recent years in the Public Utility Industry has been the holding company movement. This is of course a financial matter and because it originated within financial circles, which might have been located at a distance from the points where the consolidating properties were situated, there has been a certain amount of uncertainty in the public's mind as to the character of this development and its real utility.

After careful analysis is made of this movement, it will be seen that there are certain special characteristics which pertain to holding companies and which are of considerable significance to the public that is served by the consolidating utilities. In the first place, it must be noted that even though a consolidation takes place, the public still enjoys the same safe-guards that existed when the plants in the various cities and towns were locally owned. The powers of rate-making and regulation are still vested in the hands of the public, through their public service commissions and other state and local bureaus. The same legislative control is exercised over these consolidated companies and the legislature and the courts still retain all their powers for fixing rates. There should be absolutely no feeling that, because these companies have consolidated, rates will become unreasonable, for the owners of the property, held by holding companies, are no more permitted to charge more than a reasonable rate than when a local man, or a group of local men were the original owners of the property.

On the other hand, the public benefits in various ways through these consolidations. In many cases the consolidating companies are not able to conduct their business with the greatest economy and also with the clearest view of the future. Many times no earnest attempts were made to get new business and to develop the industrial end of the load. However, when these companies consolidate to form a single enterprise, a powerful organization is generally formed, imbued with a very progressive spirit and great changes are immediately visible in the method of doing business. The result is then entirely to the advantage of the public served. The efforts that are made by the holding companies to reduce costs by introduction of new labor-saving and time-saving devices, to extend their business by developing new phases of the industrial and gas load, have been of such magnitude that they could be duplicated only by the larger individual gas enterprises. This has unquestionably resulted in great benefit to the communities served.

It has been said that as long as the demand for public utility services continued to increase; as long as money must be raised to finance money to meet these demands; as long as there was research and new development in the arts of the utilities, then there is need for holding companies in the public utility industry.

In explanation of these statements the following has been said:

"No individual company, except one of the very largest, can afford to have on its own staff experts competent to meet all engineering, construction, operating and financing problems, as well as those many and ever-present problems involving legal matters, the building of proper rate structures, the handling of audits and accounts, the development of business through commercial departments and the establishing of proper public relations. The only way that the average company can get the benefit of this expert supervision and advice and counsel is through its association with a holding company, the big staff of a holding company being at the call of the operating company.

"In addition, the holding company, if it is one that is carrying on its work in the most successful way, carries the financial burdens of the operating company until the latter can finance its own requirements."

## IMPROVED CUSTOMER RELATIONS

(Continued from page 264)

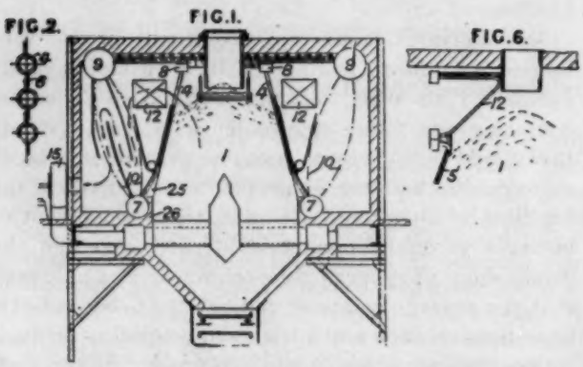
company practice that every transaction should have in it the thought of salesmanship. This is a job for every person in the industry—for presidents and for office boys, and for all the employees and officials in between, all of whom should be taught to regard themselves as salesmen. The reasons seem perfectly obvious; every transaction with every customer is a sales contact. The men in production and distribution "sell the company" to the customer daily when a uniform product is delivered to the burner; the meter readers and all the office employees "sell the company" to the customer every month in the preparation, delivery and collection of bills. In literally thousands of ways the company is being "sold to the customer" month in and month out, year in and year out. Considering the monopolistic character of the utility business, from the customer's standpoint, is it not vitally essential that all energies be focused on "the sale"?

### A Recommendation

What methods shall be used by one company or another must be determined by the particular company. What part shall be played by one person in the organization or another must depend, of course, on the organization and the circumstances. But, we submit that the way to any Improved Methods of Handling Transactions with Customers is through the application of a high grade of salesmanship on the part of all. We recommend, therefore that the members of this Association try at least a year's campaign of visualizing every public contact as a sales opportunity with a slogan which might well be "Every Employee a Salesman."

## COOLING COKE

COKE-cooling apparatus comprises a cooling chamber 1 through which a stream of inert gas is circulated by a fan 15 and which is surrounded, preferably on all sides, by water-tubes 4 of a steam-generator, the chamber 1 and the steam-generator being combined in a unitary structure. The tubes 4, which communicate at the lower end with a drum 7 and at the upper end with a header 8 connected to a drum 9, are formed, at the part in actual contact with the coke, with overlapping fins 6, Fig. 2, these fins being omitted at the upper part to permit passage of the circulating gas over the super-heater 12 and the main boiler tubes 10. Instead of the fine construction shown in Fig. 2, the lower part of the tubes may be covered, either on the inner




or outer sides, by filling pieces, or the tubes may be placed close to one another, in which latter case alternate tubes are bent outwardly above the coke level and connected to a special water chamber. The tubes 4 are formed with flanges 25, resting on the masonry 26, to provide a continuous smooth wall to the cooling chamber. Fig. 6 shows an arrangement in which the tubes 5 are covered throughout their length, the gases passing through the spaces between the tubes of a preferably removable super-heater 12. A modification is described in which the main boiler elements are located to one side only of the chamber 1, flues being provided to convey the gases passing through the opposite wall into the boiler tubes. (British Patent No. 252118.)


GAS - The Silent Partner in Industry

"Live In and Expand Your Business in Greater Pittsburgh"

The Heat Treating of Metals

In the annealing, tempering and hardening of metals, gas is universally recognized as the best fuel from every standpoint known to the operators of furnaces and ovens.

*GAS can be accurately and automatically controlled.*

*GAS responds instantly and increases production capacity.*

*GAS makes possible a perfect control of furnace atmosphere, so necessary for the elimination of scale.*

*GAS is a clean fuel and is extremely flexible to all demands.*

*GAS improves working conditions and lowers equipment maintenance costs.*

*GAS, in the final analysis, is responsible for the lowest total production cost.*

Such a fuel is applicable to other branches of industries requiring a clean, economical and easily controllable fuel.

The engineers of this company are always available for consultation on any industrial heating operation, just one of many services supplied by the

Equitable Gas Company

*An Effective Industrial Gas Ad*

# INDUSTRIAL GAS LESSONS

IF IT'S DONE WITH HEAT — YOU CAN DO IT BETTER WITH GAS

## Lesson No. 137

### Combustion

#### Composition of Natural Gas

It has been mentioned that natural gas has the same origin as petroleum and that it occurs along with petroleum. Hence, it is frequently found that it contains an appreciable quantity of the lighter hydrocarbons that are usually found in the first distillates obtained in the distillation of petroleum. Thus, for example, many of the hydrocarbons that are common ingredients of gasoline occur in natural gas. Due to the great demand for gasoline, it has been found commercially advisable and profitable to remove these gasoline ingredients from natural gas either by compression or absorption methods, and produce a very valuable gasoline which is known as casinghead gasoline. This gasoline may then be mixed with high-boiling gasoline to give a very excellent motor fuel.

#### Methane Principal Ingredient

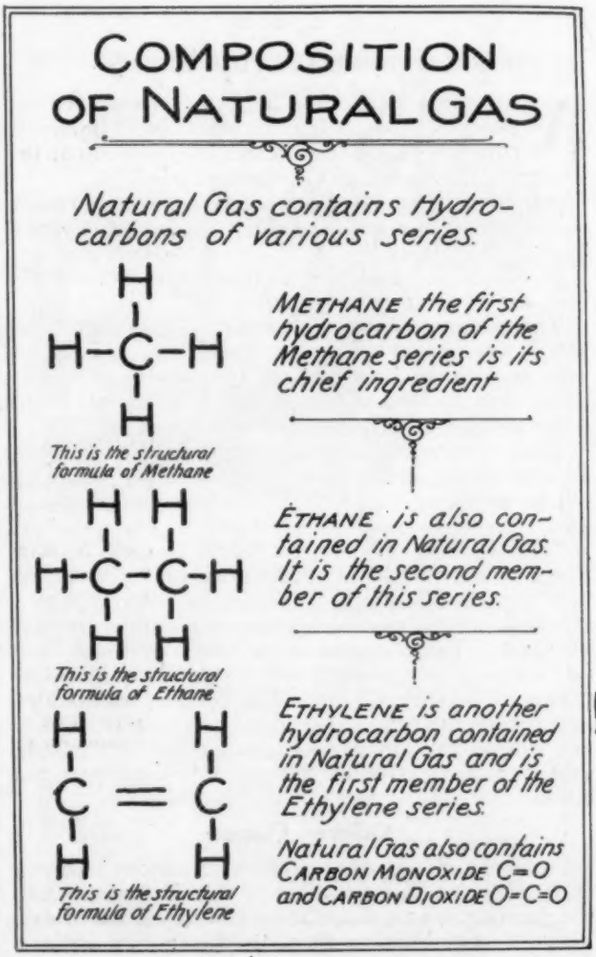
The principal ingredient of natural gas is the hydrocarbon methane. This is a compound containing one atom of carbon to four atoms of hydrogen. It is the simplest hydrocarbon and the first member of the methane series of hydrocarbons. It is the hydrocarbon that has the lowest boiling point and it always exists under natural conditions in the gaseous form. Other hydrocarbons are also contained in natural gas, such as ethane, another member of the methane series, and ethylene, the first member of the next series of hydrocarbons known as the ethylene series.

The following tabulation gives an idea of the composition of various natural gases of American, English and Russian origin. The preponderance of methane in most of the natural gases is seen in the following:

#### Volumetric Analysis

| | $C_2$ | $CH_4$ | $C_2H_6$ | $H_2$ | CO | $C_2H_4$ | $N_2$ | $CO_2$ |
|---|---|---|---|---|---|---|---|---|
| West Virginia | 0.4 | 99.5 | 0.1 | ... | ... | ... | ... | ... |
| Kansas | 0.25 | 98.3 | ... | ... | 0.25 | ... | 1.2 | ... |
| Ohio | 0.35 | 93.85 | ... | 2.14 | 0.44 | 0.2 | 2.98 | ... |
| English | ... | 93.16 | 2.94 | ... | 1.0 | ... | 2.9 | ... |
| Russian | ... | 93.1 | 3.26 | 0.98 | ... | ... | 0.49 | 2.18 |
| Pennsylvania | ... | 67.0 | 5.0 | 22.0 | 0.6 | 1.0 | 3.0 | 0.6 |

The Pennsylvania natural gas shown in the tabulation is noteworthy for the comparatively small amount of methane contained in it and the higher amount of hydrogen. Natural gases ordinarily contain very little hydrogen. Other ingredients of natural gas which occur in it in small amounts are oxygen, nitrogen, carbon monoxide and carbon dioxide.


COMPOSITION OF NATURAL GAS
Natural Gas contains Hydrocarbons of various series.
This is the structural formula of Methane
METHANE the first hydrocarbon of the Methane series is its chief ingredient
This is the structural formula of Ethane
ETHANE is also contained in Natural Gas. It is the second member of this series.
This is the structural formula of Ethylene
ETHYLENE is another hydrocarbon contained in Natural Gas and is the first member of the Ethylene series.
Natural Gas also contains CARBON MONOXIDE C=O and CARBON DIOXIDE O=C=O

## CAMP FIRE COOKING FOR BOYS

A FELLOW who can cook in the forest, is a fellow to have on a camping trip. It's in the wilds that the Flapjacks and the Doughboys, the Mulligan Stew and the Broiled Steak on the Stick, the Pork Cake and the Hot Dried Fruit Pie, taste like "real food" to a boy. I'll show you how to make 'em all, and to mix up Muffins in a sack of flour, if you come to the Camp Fire Cooking Meetings on Friday mornings at 10:30 A. M. in Cambridge Gas Light Bldg. Leader—Someone young.

The meetings are good fun. You eat all that is cooked. Beth Newton, Leader.—(From Home Service Department of Cambridge Gas Light Co.).

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## FALL HOME SERVICE PLANS

A PROGRAM for the Fall on Home Service Work is given below by Marjorie E. Pidgeon, Director House Economics Department of the Brooklyn Borough Gas Co., Coney Island, N. Y.

Our cooking course for women consists of twelve consecutive lessons held in the afternoon each week from 2 to 4 o'clock.

Diplomas are awarded to those who are present nine out of the twelve lessons.

The average registration of the classes ranges from 100 up. No actual cooking is done by the women but they receive the benefit of the lecture-demonstration given and sample the food which is made. Prizes of small appliances are awarded at each lesson.

These courses touch on all branches of cookery besides giving instruction on proper use and care of the appliances as well as the economical use of gas.

"The Girl in White" (a name by which Miss Pidgeon is well known) believes that the homemaker should conduct her home as efficiently as a business and so many educational features are also included in her course such as "How to Read Your Gas Meter," "Manufacture of Gas," "Budget Making," lecturers from food product companies, instruction in party decorations and favors, in fact any subject pertaining to the home which might be useful or instructive for better home-making is included.

### Children Classes

Childrens' classes are held every Saturday morning at 10 o'clock. These consist of the Girl Scouts and the Junior Cooking Class from 12 to 16 years of age. These classes meet on alternate Saturday mornings. Diplomas are also awarded to those who complete the required number of lessons.

### List of Classes to Be in Operation for the Fall 1926

Wednesday, October 5th, 1926, Women's Class, 2 P. M., at the Community Building, Kings Highway and East 17th street.

Thursday, October 7th, 1926, Women's Class, 2 P. M., at the Community Hall, Gerrittsen Beach.

Saturday, October 2nd, 1926, Girl Scout Class, 10 o'clock, Main Office, Mermaid avenue and West 17th street.

Saturday, October 9th, Junior Cooking Class, 10 o'clock, girls 12 to 16 years of age, Main Office, Mermaid avenue and West 17th street, Coney Island.

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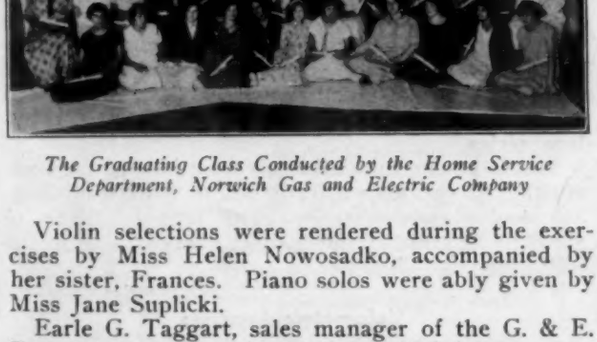
## NORWICH HOME SERVICE AWARDS DIPLOMAS

DIPLOMAS were recently presented the cooking class of six lessons given by Miss Gladys L. Peckham, for the Norwich Gas and Electric Department. Of the class members, thirty-two had been present at every lesson.



*The Graduating Class Conducted by the Home Service Department, Norwich Gas and Electric Company*

Violin selections were rendered during the exercises by Miss Helen Nowosadko, accompanied by her sister, Frances. Piano solos were ably given by Miss Jane Suplicki.

Earle G. Taggart, sales manager of the G. & E. Department, gave a short talk in which he congratulated the girls upon the completion of their course. W. E. Mills, a representative of the Glenwood Range Company, also spoke on the work of the Home Service Department, in comparison with the work done in other cities throughout the country. He also congratulated the girls receiving their diplomas.

Out of the fifty-five girls who registered for the course, thirty-two did not miss any of the work. Another class is expected to start about October 1.

Fifty-three attended the closing lesson and there was a unanimous request that Miss Peckham give another series of demonstrations, beginning in October. The last lesson was on vanilla ice cream and chocolate sauce.

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## HOME SERVICE WORKERS TEACH COOKS

LESSONS in cooking are to be given by the Home Service Division of the Brooklyn Union Gas Company at the Howard Beach Casino, for a period extending from August 1 to September 9. The lessons will be from 2:30 until 4 P. M.

The lectures will be in charge of Miss Ruth Soule, Home Service Director of the gas company. She will be assisted by Martha Louise Grant and Mildred Magonigle. Margaret Conklin will be hostess.

The schedule includes cold soups and appetizers, a short dinner, suggestions for a summer luncheon, refreshments for a summer afternoon, cakes and frostings, pies and pastry.

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## MISS SMITH TELLS HOW TO REACH THE PUBLIC

THE director of Home Service Department of Rochester Gas and Electric Corporation, Miss Helen Smith states that the hardest thing to do is to get an audience. She suggests joining clubs as a good means. Rochester has done a lot of work with the Home Bureaus, which meet once a week. Their representative also calls up clubs and churches. In fact talks to anybody and everybody. Offers their services to take the place of speakers who have failed to appear. After a while the clubs etc. will come to depend on the Home Service Department and invite them for regular talks.

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## MODERN GIRLS ARE ANXIOUS FOR COOKING LESSONS

MISS Kathleen Atkinson, director, Home Service Department, Providence Gas Company, Providence, R. I., claims that the modern girl is anxious to learn how to cook. After conducting a great many home service classes for women, she has determined that 65 per cent of the total number attending the cooking classes were young girls. They were girls from 20 to 30, soon-to-be brides, and brides of a few years.

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## THE SOUTHERN GAS & POWER CO.'S COOKING DEMONSTRATIONS

WE had demonstrations in two of our North Carolina plants in July. The thermometer registered over 100 degrees every day and yet we had a crowded house every afternoon at 3:30. Some of the ladies who came had as many as three servants and still they were interested enough in gas cookery to brave the heat and come out every afternoon. Each day we have an attendance prize consisting of groceries donated by the leading grocers of the towns, such as a ham, a 48-pound sack of flour, a 24-pound sack of sugar, etc. We felt fully repaid in the good-will created by these demonstrations.

Thus writes Miss Cephalie Lewis, of Home Service Work of the Southern Gas and Power Company.

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## KATHARYN STULTZ JOINS PEOPLES' HOME SERVICE STAFF

MISS KATHARYN STULTZ, who graduated two years ago from the University of Minnesota, has joined the Home Service staff of the Peoples Gas Company, Chicago. She has had excellent experience in teaching, and after training at the main Home Service she will take charge of the New Irving Avenue store, this Fall.

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## HOME SERVICE AT THE OCTOBER CONVENTION

MISS MARGARET HUTTON, B.S., domestic science director, Westchester Lighting Company, will give a lecture demonstration at the American Gas Association convention, Atlantic City, October 11 to 16. The demonstration will show the type of cooking instructions given Girl Scouts, as conducted by Home Service Division of the Lighting Company, of which Mrs. Cecil G. Harvey is director-in-charge. This demonstration is in accordance with the accepted Girl Scout Merit Badge requirements.

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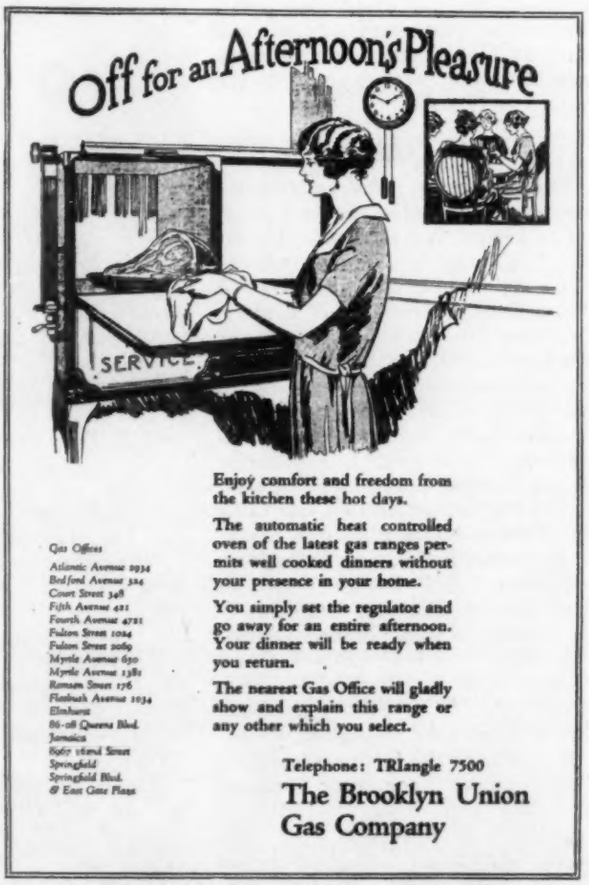

Off for an Afternoon's Pleasure
SERVICE
Gas Offices
Atlantic Avenue 2934
Bedford Avenue 324
Court Street 348
Fifth Avenue 421
Fourth Avenue 4721
Fulton Street 1024
Fulton Street 2069
Myrtle Avenue 650
Myrtle Avenue 1381
Remsen Street 176
Flatbush Avenue 1034
Elmhurst
86-08 Queens Blvd.
Jamaica
8567 161st Street
Springfield
Springfield Blvd.
& East Gate Plaza
Enjoy comfort and freedom from the kitchen these hot days.
The automatic heat controlled oven of the latest gas ranges permits well cooked dinners without your presence in your home.
You simply set the regulator and go away for an entire afternoon. Your dinner will be ready when you return.
The nearest Gas Office will gladly show and explain this range or any other which you select.
Telephone: TRIangle 7500
The Brooklyn Union Gas Company

*Real Service Is Given the Home Manager by the Automatically Controlled Gas Range*

# NEWS OF THE GAS INDUSTRY

## Pacific Gas Men Meet in Pasadena

**Marks 33rd Annual Convention of the Pacific Coast Gas Assn.**

Breaking all attendance records, all interest records and, in fact, every record of every kind, the Pacific Coast Gas Association adjourned its 33rd annual convention, a firmer knit and more harmonious body than ever before in its history. The paid registration was 475 which included more than one hundred women, while the total part-time and full-time attendance was at least six hundred.

The meeting opened on August 23 with an address by Mr. F. J. Schafer, president of the association, who was followed by Mr. A. B. Macbeth, executive vice-president of the Southern California and Midway Gas companies and nominee for the presidency of the American Gas Association.

### New Officers

The following officers and directors were elected for next year:

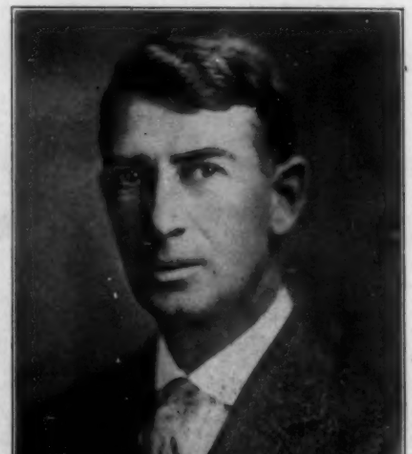
President, W. S. Yard, Pacific Gas & Electric Co., San Francisco; vice-president, L. M. Klauber, San Diego Consolidated Gas & Electric Co., San Diego; treasurer, D. G. Martin, Pacific Gas & Electric Co., San Francisco; directors (two years): W. C. Hornberger, Central Arizona Light & Power Co., Phoenix; O. L. Moore, Los Angeles Gas & Electric Corp., Los Angeles; C. W. Platt, Portland Gas & Coke Co., Portland, Ore.; W. Van Zandt, C. B. Babcock Co., San Francisco; (one year): A. F. Bridge, Southern Counties Gas Co., Los Angeles; C. H. Dickey, Pacific Meter Works, San Francisco; J. F. Pollard, Coast Valleys Gas & Electric Co., Salinas, Cal.; J. L. Stone, Spokane Gas & Fuel Co., Spokane, Wash.

Features of the business sessions which took place on Tuesday, Thursday and Friday included an exposition of the Blue Star Plan of the American Gas Association by Mr. J. W. West, Jr., field representative of the American Gas Association, and the following papers:

"Approaching the Ideal Gas Manufacturing Process," by Geo. Wehrle of the Public Service Co. of Colorado, Denver.

"Gas Company Merchandising," by C. B. Babcock, president of the C. B. Babcock Co., San Francisco.

"Stores Accounting of the Southern California Gas Co., by A. E. Peat, comptroller and treasurer of the Southern California Gas Co., Los Angeles.



*W. S. Yard, President, Pacific Coast Gas Association*

"Insulation As a Factor in Gas Househeating," by W. L. Hoyt of the American Gas Products Corp., San Francisco.

"Gas Company Tie-in With National Advertising," by W. S. Woodbridge of the Byrant Heater & Manufacturing Co., Cleveland, Ohio.

"Coals Suitable for Gas Manufacture in California," by W. W. Odell of the U. S. Bureau of Mines, Washington, D. C.

"Indexing and Filing of Gas Engineering Data," by W. M. Berry and Grace B. Dixon of the California Gas Research Council, Los Angeles.

"Tests of Super-refractories in Oil Gas Generators" by H. J. Knollman of the Los Angeles Gas & Electric Corporation, Los Angeles.

In addition to these there were a number of other papers and reports of committees and an address by Mr. Lester S. Ready, Chief Engineer of the California State Railroad Commission.

### Gas Appliance Situation

A great deal of attention was paid to the gas appliance situation and at its last meeting the Association passed resolutions endorsing the Laboratory and Blue Star Plan of the American Gas Association and recommending the appointment of a committee to co-operate closely in the formulation of approval specifications. These resolutions are as follows:

Whereas, The American Gas Association through its Gas Appliance Testing Laboratory has initiated a work which can be of inestimable value to the Gas Industry, and

Whereas, The success of the Laboratory and the so-called "Blue Star Plan," based upon its work, are entirely dependent upon the close co-operation of gas appliance manufacturers and gas companies, be it

Resolved, That the Pacific Coast Gas Association endorses the plans of the American Gas Association and urges its manufacturer member companies to submit their appliances for approval and its gas company members to take steps to initiate and further the "Blue Star Plan" in their respective territories.

Whereas, The question of the proper design and installation of gas appliances is becoming more and more important to the future of the gas industry, and

Whereas, During the past two years this Association has had committees engaged in a study of two

phases of the gas appliance situation—one involving an investigation of the quality of gas appliances being offered the public, and the other an investigation of the possible improvement of the character of gas appliance installations by means of municipal ordinances, and

Whereas, The progress made by the Laboratory of the American Gas Association no longer warrants further pronouncements by this Association in regard to the quality of gas appliances, but does not offer aid in the solution of installation problems, be it

Resolved, That the Association direct its officers to appoint a committee to continue the study of the gas appliance situation with special reference towards issuing information on installation methods, and that this committee be also empowered to fulfill such functions heretofore held by the Appliance Certification Committee as may be considered meet and proper under developing circumstances.

### Education

The Association also discussed the feasibility of adopting a recommendation by Mr. L. M. Klauber, Chairman on Co-operation with Educational Institutions, that a Research Fellowship be established at the University of California. As a result of this discussion the Board of Directors was empowered to appropriate $1,000 for the purpose of providing for this Fellowship starting in 1927. The Fellowship will be open to students in all Pacific Coast universities but they will be asked to do their work at the University of California where the Association has already provided a large amount of equipment.

Plans were also laid to interest the women in the Association work. Pacific Coast gas companies have been going ahead with the installation of Home Service Departments and have a number of women employed who will make a nucleus of a Women's Committee which may eventually develop into a Women's Section of the Association. However, for the coming year the women will co-operate almost entirely with the work of the Public Relations Section.

### Award of Medals

The Pacific Coast Gas Association has a series of Gold Medals which are awarded each year to papers and committee reports which, in the judgment of a special Awards Committee comply with certain high standards. Two medals were awarded this year, both being in the Technical Section. One went to Mr. E. L. Hall, General Superintendent of the Portland Gas & Coke Company, for a paper entitled, "Oil Gas Manufacture for Peak Load Conditions" which was read at the San Francisco Sectional Meeting of the Association in November, 1925, and the other went to the Committee on Liquid Purification for a report on "The Sulphur Recovery Process

*L. M. Klaubel, Vice-President, Pacific Coast Gas Association*

of Liquid Purification," which process was largely developed by the Pacific Gas & Electric Company. The committee receiving the award had the following personnel:

K. N. Cundall, Chairman, Pacific Gas & Electric Company; Van E. Britton, Pacific Gas & Electric Company; R. H. Hargreaves, Pacific Gas & Electric Company; Elton Hogg, Pacific Gas & Electric Company; M. M. Katz, Public Service Company of Colorado; Ludwig Rosenstein, San Francisco.

The following papers and committee reports received honorable mention:

"The Advantages derived and the Equity resulting from a Tripartite Form of Gas Rate Schedule" by Rudolph Jenny of the Pacific Gas & Electric Company, San Francisco —a paper read in the Accounting Section.

"The Relations between the Industrial Load and the Tariff Structure" by L. C. Haffner of the Portland Gas & Coke Company—presented under the auspices of the Commercial Section.

"Gas Company Merchandising" by C. B. Babcock of San Francisco —presented under the auspices of the Commercial Section.

"Applied Public Relations" by Don C. Ray of the Pacific Gas & Electric Company, San Francisco, this being a paper presented by the Public Relations Section at the San Diego Sectional Meeting of the Association in February.

"Economics of High Pressure Storage" by Arthur F. Bridge of the Southern Counties Gas Company, Los Angeles, this being a paper presented by the Technical Section at the San Francisco Sectional Meeting.

### Basford Trophy

The Commercial Section was awarded the Basford Trophy which goes each year to the section which is judged to have presented the most constructive program. Mr. C. M. Grow of the Southern California Gas Company, Chairman of the Commercial Section, received the trophy for his section.

Clinton A. Smith, a post-graduate student of the University of Nevada, won the association's thesis prize of $100 for his thesis entitled, "Development of a House-Heating Load in Reno, Nevada."

On Wednesday there were no business meetings and practically all of those in attendance at the convention availed themselves of the special trip which had been arranged to Catalina Island, thirty miles out in the Pacific.

At the banquet on Friday night, which closed the convention, Mr. Yard announced that the following would lead the association committee work during the year:

Accounting Section—E. N. Simmons, Los Angeles Gas and Electric Corporation.

Commercial Section—C. M. Grow, Southern California Gas Company.

Public Relations Section—D. L. Scott, Los Angeles Gas and Electric Corporation.

Technical Section—R. M. McCalley, Portland Gas and Coke Company.

Luncheon meetings of the entire association attendance were held on Tuesday and Thursday, features of which were stunts, community singing, and a series of three-minute speeches for which trophies were awarded. At the Tuesday luncheon there were eight three-minute speakers, two for each section of the association, the subject assigned being "What My Section Has Done for the Gas Industry This Year." This contest was won by D. C. Ray, Manager of Public Relations for the Pacific Gas and Electric Company, San Francisco. J. Earl Jones, assistant sales manager of the Portland Gas and Coke Company, received the second highest number of points, and J. C. Hayden, of the Thompson Water Heater Company, received third. At the Thursday luncheon there were ten speakers, and the subject was, "What Is the Greatest Present Need of the Gas Industry?" W. C. F. West, Jr., statistician of the Los Angeles Gas and Electric Corporation, received the highest score, while Paul A. Patchen and W. M. Henderson, both of the above company, received second and third respectively.

### "Balloon Juice"

Another feature of the convention which was particularly popular was a daily newspaper edited under the title "Balloon Juice," by D. L. Scott of the Los Angeles Gas and Electric Corporation. The paper contained all convention announcements and was replete with humorous comments on those in attendance and what they were doing. Mr. Scott also acted as master of ceremonies at the two luncheon meetings.

W. S. Yard, president-elect of the association, won the Babcock-Pedersen-Basford Cup for the low gross golf score and will hold the trophy until the next convention.

* * *

Before long the U. G. I. insignia will be seen in San Paulo, Brazil. The San Paulo Gas Company, Ltd., through the Canadian and General Finance Company, Ltd., has awarded the contract to the U. G. I Contracting Company of Philadelphia for complete carburetted water gas plant, having a daily capacity of 1,200,000 cubic feet. The contract calls for a complete cone-top water gas apparatus with hydraulic operation; also the necessary blowing plant and blast pipe. The U. G. I. vertical waste heat boiler is included as well as one of the new U. G. I. high duty pressure condensers

### Central N. Y. Power Co. Plans Addition

Albany, N. Y.—The Central New York Power Company of Utica has filed a petition with the Public Service Commission for permission to construct and operate a gas plant (distribution system) in the village of Wampville, Madison county. The commission will hold a hearing on the petition at an early date.

# A. G. A. 1926 Convention Program

### FIRST GENERAL SESSION

(Hippodrome, Million Dollar Pier)

**Tuesday, October 12, 10 A. M.**

Opening remarks, President, H. C. Abell, Electric Bond and Share Company, New York City; report, Treasurer, H. M. Brundage, Consolidated Gas Company, New York City; report, Secretary-Manager, Alexander Forward; president's address, "The Association's Program," President H. C. Abell; report, Nominating Committee, Wm. M. Crane, chairman; address, "Economic Advantages of the Gas Industry as Related to Its Competitors," Dean Ralph E. Heilman, School of Commerce, Northwestern University, Chicago, Ill.; address, "National Advertising for the Gas Industry and for the Manufacturers of Gas Appliances," Edward S. Jordan, President, Jordan Motor Company, Detroit, Mich.; report, Committee on Amendments to the Constitution, W. J. Clark, chairman, Westchester Lighting Company, Yonkers, N. Y.; executive session (only company member delegates eligible to attend), election of company members, election of directors, election of 1926 Nominating Committee, election of committee on resolutions, election of active individual members.

### SECOND GENERAL SESSION

**Wednesday, October 13, 10 A. M.**

Address, "Selling All the Gas That Should Be Sold in the Home," Philip Cabot, Harvard Graduate School of Business Administration, Cambridge, Mass.; address, "The Gas Industry and the American Manufacturer," James R. Allen, industrial engineer, International Harvester Company, Chicago, Ill.; address, "The Public's Measure of an Industry," David Lawrence, publisher, United States Daily, Washington, D. C.; address, "Perfecting Service and Safety," George K. Burgess, director, Bureau of Standards, Washington, D. C.; presentation award of 1925, A. G. A. Meritorious Service and McCarter Medals, Thomas N. McCarter, president, Public Service Electric and Gas Company, Newark, N. J., and H. C. Abell, president, A. G. A.

### PUBLIC RELATIONS SYMPOSIUM

(Hippodrome, Million Dollar Pier)

**Wednesday, October 13, 9 P. M.**

The program will consist of two addresses by people nationally prominent. Miss Anna Case, world-famed soprano, will be the entertainment feature. Further announcements will be made in the near future.

### THIRD GENERAL SESSION

**Thursday, October 14, 10 A. M.**

Report, Consolidated Report of General Committees, Secretary-Manager, Alexander Forward; report, Committee on President's Address; report, Committee on Resolutions; report, Time and Place Committee (1927 meeting), A. B. Tenney, Charles H. Tenney & Co., Boston, Mass.; address, "Commission Regulation and Its Influence on the Stability of Utility Securities," speaker to be announced; address, "Building a Rate to Build the Business," C. S. Reed, Rate Consultant, A. G. A.; closing remarks.

### ACCOUNTING SECTION

**Tuesday, October 12, 2 P. M.**

Opening remarks and report of chairman, Chairman DeWitt Clinton, Worcester Gas Light Company, Worcester, Mass.; report, Nominating Committee, H. C. Davidson, chairman, Consolidated Gas Company of New York, New York City; report, Exhibit Committee, Sidney Curren, chairman, Public Service Electric and Gas Company, Newark, N. J.; report, Insurance Committee, J. G. Reese, chairman, Consolidated Gas, Electric Light and Power Company, Baltimore, Md.; report, Relations with Customers Committee, J. M. Roberts, chairman, The Peoples Gas Light and Coke Company, Chicago, Ill.

**Wednesday, October 13, 2 P. M.**

Report, Gas Company Audits and Auditing Committee, A. S. Corson, chairman, The United Gas Improvement Company, Philadelphia, Pa.; paper, "Customers Accounting System of the Consolidated Gas Company of New York," G. A. Burrows, Consolidated Gas Company of New York, New York City; report, Statistics and Cost Accounting Committee, James E. Kane, chairman, Consolidated Gas, Electric Light and Power Company, Baltimore, Md.; report, Going Value Committee, J. I. Blanchfield, chairman, Brooklyn Union Gas Company, Brooklyn, N. Y.

**Thursday, October 14, 2 P. M.**

Report, Storeroom Accounting and Inventory Taking Committee, F. H. Patterson, chairman, Rochester Gas and Electric Corporation, Rochester, N. Y.; report, Committee on Cost of Operating Motors and Mechanical Equipment in Distribution Work, J. Henderson Smith, chairman, The United Gas Improvement Company, Philadelphia, Pa.; report, Committee on Uniform Classification of Accounts, W. J. Meyers, chairman, United Electric Light and Power Company, New York, N. Y.; report, State Representatives Committee, A. L. Tossell, chairman, The Peoples Gas Light and Coke Company, Chicago, Ill.

## COMMERCIAL SECTION

**Tuesday, October 12, 2 P. M.**

Opening remarks, Chairman, R. J. Canniff, Standard Gas Equipment Corporation, Chicago, Ill.; report, Nominating Committee, J. P. Hanlan, chairman, Public Service Electric and Gas Company, Newark, N. J.; address, "Domestic Gas Facts and Fancies," Floyd W. Parsons, editorial director, "Gas Age-Record," New York City; address, "Selling Gas by Stopping Heat Losses," speaker to be announced; address, "Windows and Displays," speaker to be announced; address, "Building the Domestic Load Through Merchandise Sales," T. L. Kennedy, Henry L. Doherty & Co., New York City; H. N. McConnell, Electric Bond and Share Company, New York City, and J. E. Davies, Peoples Gas Stores, Inc., Chicago, Ill.

**Wednesday, October 13, 2 P. M.**

Address, "Modernizing the Basement," A. A. Naulin, chairman, Incineration Committee; address, "Selling House Heating," H. Leigh Whitelaw, chairman, House Heating Committee; address, "Home Service," C. C. Curtis, vice-president, Fall River Gas Works Company, Fall River, Mass.; address, "Selling the Laundry Load," S. T. Heed, president, Hurley Machine Company, Chicago, Ill.; address, "Water Heating Sales," F. A. Lemke, Humphrey Company, Kalamazoo, Mich.

**Thursday, October 14, 2 P. M.**

Address, "Selling to the Speculative Builder," Bernard Johnson, editor, "American Builder," Chicago, Ill.; address, "Reaching the Architect," speaker to be announced; address, "Recent Developments in Refrigeration," H. D Valentine, chairman, Refrigeration Committee; address, "The Blue Star Campaign," to be presented by three representatives of companies promoting the Blue Star Campaign; symposium, "Sales Stimulation"; address, "Commercial Aspects of the A. G. A. Laboratory," R. M. Gallagher, chairman, Laboratory Managing Committee.

## INDUSTRIAL GAS SECTION

**Tuesday, October 12, 2 P. M.**

Opening remarks, Chairman, F. F. Cauley, The Peoples Gas Light and Coke Company, Chicago, Ill.; report, Nominating Committee; paper, "Organization and Operation of an Industrial Gas Sales Department," D. A. Campbell, Kansas City Gas Company, Kansas City, Mo.; report, Advertising Committee, J. F. Weedon, chairman, The Peoples Gas Light and Coke Company, Chicago, Ill.; report, Survey Committee, R. L. Manier, chairman, Syracuse Lighting Company, Syracuse, N. Y.

**Wednesday, October 13, 2 P. M.**

Report, Policy Committee, C. C. Krause, chairman, Consolidated Gas Electric Light and Power Comany, Baltimore, Md.; report, Progress Committee, H. A. Clark, chairman, Detroit City Gas Company, Detroit, Mich.; address, "The Industrial Gas Sales Department and the Gas Company," C. E. Paige, vice-president, Brooklyn Union Gas Company, Brooklyn, N. Y.; paper, "Malleableizing Kiln at Northwest Malleable Iron Company, Milwaukee, Wis.," George Blakney, superintendent, Northwestern Malleable Iron Company, Milwaukee, Wis.; report, Publicity Committee, H. O. Andrew, chairman, Robbins Publishing Company, New York City.

**Thursday, October 14, 2 P. M.**

Report, Speaker's Bureau, H. O. Loebell, chairman, Henry L. Doherty Company, New York City; paper, "Description of Installation of Rotary Carbonizing Machines—Link Belt Company, Indianapolis, Ind.," F. S. O'Neill, works manager, Belmont Plant, Link Belt Company, Indianapolis, Ind.; paper, "Description of Installation of Continuous Heat Treatment Furnaces—Studebaker Plant, South Bend, Ind.," Carl Lekberg, Northern Indiana Gas and Electric Company, South Bend, Ind.; report, Committee on Education of Industrial Gas Salesmen, J. P. Leinroth, chairman, Public Service Electric and Gas Company, Newark, N. J.

## MANUFACTURERS' SECTION

**Monday, October 11, 2 P. M.**

Opening remarks, Chairman, Watson E. Derwent, Geo. D. Roper Corporation, Rockford, Ill.; report, Nominating Committee, Wendell L. Smith, chairman, A-B Stove Company, Battle Creek, Mich.; election; report, A. G. A. Appliance Testing Laboratory, R. M. Conner, director; reports, Division Chairman, Distribution Equipment, W. G. Gribbel, John J. Griffin & Co., Philadelphia, Pa.; Gas Manufacturing and Auxiliary Equipment, F. J. Kennedy, West Gas Improvement Company, New York City; Mechanical Office Equipment, E. A. Norman, Elliott-Fisher Company, New York City; Utilization Appliances, H. L. Whitelaw, American Gas Products Corporation, New York City; new business.

## PUBLICITY AND ADVERTISING SECTION

**Tuesday, October 12, 2 P. M.**

Opening remarks and report of chairman, Chairman Frank L. Blanchard, H. L. Doherty & Co., New York City; report, Nominating Committee, J. S. S. Richardson, chairman, director, Pennsylvania Public Service Information Committee, Philadelphia, Pa.; address, "Does the Gas Industry Need National Advertising?" speaker to be announced; address, "How the State Information Committees Can Help Make National Advertising More Effective," speaker to be announced; symposium, "National Advertising."

## TECHNICAL SECTION

**Tuesday, October 12, 2 P. M.**

Opening remarks and report of chairman, Chairman J. P. Haftenkamp, Rochester Gas and Electric Corporation, Rochester, N. Y.; report, Chemical Committee, A. C. Fieldner, chairman, U. S. Bureau of Mines, Pittsburgh, Pa.; paper, "Waterless Holders," speaker to be announced; report, Comments on the Carbonization Committee Report, R. S. McBride, Colorado Bldg., Washington, D. C.; report, Nominating Committee, R. C. Cornish, chairman, American Gas Company, Philadelphia, Pa.

**Wednesday, October 13, 2 P. M.**

Paper, "Dehydration of Manufactured

Gas," F. W. Sperr, Jr., Koppers Company, Pittsburgh, Pa.; report, Distribution Committee, D. A. Powell, chairman, Milwaukee Gas Light Company, Milwaukee, Wis.; (a) "Distribution Design," D. P. Hartson, Equitable Gas Company, Pittsburgh, Pa.

**Thursday, October 14, 2 P. M.**

Report, Measurement of Large Volumes of Gas Committee, M. E. Benesh, chairman, The Peoples Gas Light and Coke Company, Chicago, Ill.; report, Water Gas Committee, presentation by L. E. Knowlton, Providence Gas Company, Providence, R. I.

# Growth of Gas Industry Accelerated by Research

**American Association Appropriated Fund of $500,000 to Stimulate the Industrial Consumption**

New York, N. Y.—An appropriation of $500,000 to be used exclusively in research work, the realizations from which are expected to usher in a new era for the use of gas in industry and promise a wonderful expansion for the gas industry itself has been made by the American Gas Association.

This sum is to be collected and expended over a period of five years, said Alexander Forward, its secretary-manager. The major portion of the money has been turned over to the Surface Combustion Co., New York, a Henry L. Doherty Co. subsidiary, to be used in the furtherance of the pioneer work which this organization is already so successfully conducting.

**Industrial**

While recent progress in the gas industry has been amazing, with each new development in combustion practice has come the realization of unlimited possibilities for new uses of gas and endless applications in industries generally. As late as 1910 only 5 per cent of the total output of gas was used in industry, while the ratio today is 25 per cent and rapidly increasing. During the last 10 years the consumption of gas in our manufacturing plants has increased 1,000 per cent. There are more than 21,000 uses for gas in industry at present and more are being found every day.

**Domestic**

Some idea of the predominant position of the gas industry in the home is seen from the fact that approximately 52,000,000 persons in the United States are served by gas through the use of 9,800,000 stoves, 3,400,000 water heaters, 4,400,000 space heaters and hundreds of thousands of central house heating installations. Sales of gas for all purposes in 1925 were 241,000,000,000 cubic feet, a new high record. This was an increase of 16,000,000,000 cubic feet over 1924, and a five year gain of 100,000,000,000 cubic feet. The latest figures show that installations of gas fired house heating units are being made at the rate of about 100,000 every year. At present there are two types of gas-fired refrigerating machines on the market. They are the adsorption and the absorption types. Both work equally well with gas fuel, the operation is noiseless as compared with other machines and the cost of maintenance and upkeep is less than other types. Gas-fired ice machines are being developed for sale by the gas companies and there is a steadily growing demand for them. Right now engineers are developing an apparatus that will artificially cool buildings in the summer and automatically heat them in the winter. There is little doubt in the minds of experts that in the future, all buildings will be heated by gas, that gas water heating will universally supplement gas cooling and that refrigeration will be done with this fuel.

**Roper Salesmen in Convention**

Rockford, Ill.—Salesmen and representatives of the George D. Roper Corp. recently assembled in a three days session at the factory in Rockford. An extensive program was covered during that time. All of the men expressed the belief that the last half of 1926 was going to be exceedingly good and they also felt that 1927 would prove to be a wonderful year for the sale of gas ranges.

The accompanying illustration shows the members of the Roper selling organization.

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## DOLLAR GAS LAW DECLARED ILLEGAL

**Special Master Urges 8 Per Cent Return to Borough Gas Co.**

Brooklyn, N. Y.—Alvah W. Burlingame, who served as special master in the action of the Brooklyn Borough Gas Company against the $1 gas law, has found the law to be unconstitutional and favors an 8 per cent return to the company, according to Dow, Jones & Company.

Senator Burlingame, who was appointed special master by Federal Judge Campbell, has just rendered his tentative report on the action.

He holds the company had property valuation of $7,610,895 on June 1, 1923, when the law took effect, and $9,153,526 on August 31, 1925.

This figure includes $1,472,721 for undistributed construction costs and overhead, $500,000 for working capital and $800,000 for going value. Company serves gas in the Coney Island district and was represented by former Judge William L. Ransom and Jacob H. Gotez. E. W. Blakeslee represented the Public Service Commission and Francis R. Stoddard the Attorney General of New York.